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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/604,930	06/28/2000	Shigeru Ono	P/2635-48	6497

32172 7590 02/18/2005

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EXAMINER

CHANG, EDITH M

ART UNIT	PAPER NUMBER
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2637

DATE MAILED: 02/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/604,930	ONO, SHIGERU	
	Examiner	Art Unit	
	Edith M Chang	2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>20050107</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments/Remarks

1. Applicant's arguments, see pages 8-9, filed January 7, 2005, with respect to the rejection(s) of claim(s) 1-14 under USC 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection of claims 15-21 is made in view of Sato.

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "230" and "233" have both been used to designate PILOT INVERSE MODULATION. Replace the "PILOT INVERSE MODULATION" in block 233 by "PILOT INVERSE MODULATOR" in Figure 3A and Figure 6.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

Art Unit: 2637

be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 15-20 are objected to because of the following informalities:

Claim 15, line 7: "symbol having" is suggested changing to "symbol, each having"; line 8: "the complex" is suggested changing to "respective complex", "a data" is suggested changing to "data"; line 9: "component" is suggested changing to "components".

Claim 17, line 4: "the orthogonal" is suggested changing to "an orthogonal"; line 8: "complex" is suggested changing to "the respective complex".

Claim 18, line 9: "component" is suggested changing to "component of"; line 10: "detectors" is suggested changing to "detectors detecting the"; line 11: "inverse" is suggested changing to "pilot symbol inverse"; line 16: "the frequency offset" is suggested changing to "a frequency offset".

Claim 19, line 2: "in at least" is suggested changing to "in the at least"; line 5: "signal" is suggested changing to "expressions".

Claims 16 and 20 are dependent on the objected claims 15 and 18.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

Art Unit: 2637

pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 15-20 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The estimation to the frequency controlling is critical or essential to the practice of the invention, but not included in the claim(s). See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

In claims 15 and 18, there is no element(s) or step(s) to use the estimation to control the frequency of the system to accomplish what the invention needs to be achieved as recited in the preamble of the claims.

Claims 16-17 and 19-20 are dependent on the rejected claims 15 and 18.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 19 recites the limitation "the second buffer memory" in line 12. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The estimating section comprising "a complex adder" is not described as in the disclosure of the drawing Figure 7 of the invention.

Art Unit: 2637

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art (Admission) in view of Sato (EP 0810743 A2).

With respect to **claims 15-21**, the Admission discloses all claimed subject matter in Fig. 1, Fig. 3A & Fig. 3B, except specify how many symbols (the in-phase summation rates or manners) from the in-phase pilot adding results (output of the block 230 of Fig. 3B) provided to the complex adder (251 of Fig. 3B) in turn to the complex conjugate multiplier (262 of Fig. 3B) for estimation.

However Sato teaches the in-phase summation rates/manners of the PL (pilot symbol) in-phase adding circuit 213 of FIG. 2 or 507 of FIG. 6 (column 9 lines 49-52) and stated in column 14 lines 36-42 and column 15 lines 40-45. The summation result in one rate/manner is providing the sum in the symbol interval for estimation of the method (1) (column 14 lines 37-38), or that is when $N=2$ of the method (2) (column 14 lines 38-42) as two pilot symbols from each end of the slot adding together (column 15 lines 40-41); the other rate/manner is providing the sum in the N symbol intervals (N is not equal to 2) for estimation, when the N is the latest received correct pilot symbols (column 14 lines 38-41). As both the Admission and Sato using the pilot symbols for the estimation in the CDMA mobile communication system, at the time of the invention. Therefore, it would have been obvious to a person of ordinary skill in the art to replace the in-phase adding with two rates/manners taught by Sato into the Admission's system

Art Unit: 2637

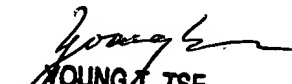
to provide the in-phase adding results of pilot symbols in a symbol interval or in multiple symbol intervals to the estimation in order to provide accurate estimation prior to the controlling of an automatic frequency in a CDMA system.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edith M Chang whose telephone number is 571-272-3041. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayanti Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Edith Chang
February 10, 2005


YOUNG T. TSE
PRIMARY EXAMINER